

What is claimed is:

1. A method of editing one or more input video frames in a bitstream for providing one or more edited video frames, the edited video frames including at least one editing effect specified by one or more editing parameters, said method comprising:

identifying frame characteristics of at least one input video frame in the bitstream; and

modifying the bitstream in the compressed domain based on the frame characteristics of said at least one frame and the specified editing parameters for providing a modified bitstream indicative of said edited video frames.

2. The method of claim 1, wherein the input video frames contain video data and wherein said modifying comprises modification of the video data in a compression domain processor for providing edited frame data.

3. The method of claim 2, wherein the video data are coded with a variable-length code (VLC), said method further comprising:

converting the VLC coded video data into a binary form prior to said modification.

4. The method of claim 3, further comprising:

inversely quantizing the VLC coded video data prior to said converting.

5. The method of claim 3, further comprising:

processing the VLC coded video data in an inverse cosine transform operation prior to said converting.

6. The method of claim 1, further comprising:

identifying frame characteristics of at least one further video frame in the bitstream; and

modifying the bitstream in a further domain different from the compressed domain based on the frame characteristics of said at least one further video frame and the specified editing parameters for providing a further modified bitstream.

7. The method of claim 6, further comprising:
combining at least a part of the further modified bitstream with at least a part of
the modified bitstream.

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8. The method of claim 6, wherein said further domain comprises a spatial domain.

9. The method of claim 6, wherein said further domain comprises a file format
domain.

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10. The method of claim 2, further comprising:
converting the edited frame data into an edited media file for use in a media
player.

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11. The method of claim 10, further comprising:
providing format information indicative of editing properties of the edited frame
data so as to convert the edited frame data into the edited media file compatible to the
media player.

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12. The method of claim 10, wherein the bitstream also comprises audio data
separable from the video data in the input video frames, said method further comprising:
combining the audio data with the edited frame data prior to said converting.

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13. The method of claim 10, further comprising:
modifying the audio data prior to said combining.

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14. The method of claim 10, further comprising:
providing timing information so as to maintain synchronization between the audio
data and edited frame data in said combining.

15. The method of claim 1, wherein the editing parameters are specified based on one
or more editing preferences chosen by a user.

16. A media editing device for editing one or more input video frames in a bitstream for providing one or more edited video frames, the edited video frames including at least one editing effect specified by one or more editing parameters, said editing device comprising:

5 a frame analyzer module, responsive to signals indicative of video frame data, for identifying frame characteristics of at least one input video frame in the bitstream; and
a compressed domain processing module, responsive to signals indicative of the frame characteristics, for modifying the video frame data based on the frame characteristics of said at least one frame and the specified editing parameters for
10 providing modified video data indicative of said edited video frames.

17. The editing device of claim 16, wherein the frame analyzer further identifies frame characteristics of at least one further video frame in the bitstream, said device further comprising:

15 a spatial domain processing module, responsive to signals indicative of the frame characteristics of the further video frame, for modifying video frame data in the further video frame based on the frame characteristics of the further video frame and the specified editing parameters for providing further modified video data.

20 18. The editing device of claim 17, further comprising:
a module for combining at least a part of the further modified video data with at least a part of the modified video data.

19. The editing device of claim 16, further comprising:
25 a format composer module, responsive to signals indicative of the modified video data, for converting the modified video data into an edited media file for use in a media player.

20. The editing device of claim 19, wherein the format composer module comprises a
30 file format composer.

21. The editing device of claim 19, wherein the format composer module comprises a media format composer.

22. The editing device of claim 19, wherein the frame analyzer module further identifies format information indicative of editing properties of the modified video data so as to convert the modified video data into the edited media file compatible to the media player.

23. The editing device of claim 16, wherein the bitstream also comprises audio data, said device further comprising:

a format parser module, for separating the audio from the video frame data in the input video frames, and

an audio processing module for modifying the audio data for providing modified audio data, if so desired.

24. The editing device of claim 21, further comprising:

a combination module for combining the modified video data and the modified audio data for providing combined signals indicative of the combined data.

25. The editing device of claim 22, further comprising:

a format composer, responsive to the combined signals, for converting the combined data into an edited media file for use in a media player.

26. A media coding system, comprising:

a media encoder for encoding media data for providing encoded media data in a plurality of frames having frame data;

a media editing device, responsive to the encoded media data, for providing edited data including one or more edited frames, the edited frames having a least one editing effect specified by one or more editing parameters, and

a media decoder, responsive to the edited data, for providing decoded media data, wherein the editing device comprises:

a frame analyzer module, responsive to signals indicative of encoded data, for identifying frame characteristics of at least one frame in the encoded data; and

a compressed domain processing module, responsive to signals indicative of the frame characteristics, for modifying the encoded frame data based on the frame

characteristics of said at least one frame and the specified editing parameters for providing modified media data indicative of said edited media frames.

27. The media coding system of claim 24, wherein the media encoder has a connectivity mechanism and the editing device has a further connectivity mechanism so as to allow the editing device to communicate with the media decoder in order to receive therefrom encoded media data in a wireless fashion.

28. The media coding system of claim 24, wherein the media decoder has a connectivity mechanism and the editing device has a further connectivity mechanism so as to allow the editing device to provide the edited data to the media decoder in a wireless fashion.

29. The media coding system of claim 24, wherein the media encoder and the editing system are integrated in an expanded encoding system.

30. The media coding system of claim 27, wherein the media decoder has a connectivity mechanism and the expanded encoding system has a further connectivity mechanism so as to allow the expanded encoding system to provide the edited data to the media decoder in a wireless fashion.

31. The media coding system of claim 24, wherein the media decoder and the editing system are integrated in an expanded decoding system.

32. The media coding system of claim 29, wherein the media encoder has a connectivity mechanism and the expanded decoding system has a further connectivity mechanism so as to allow the media encoder to provide the edited data to the expanded decoding system in a wireless fashion.

33. The media coding system of claim 30, wherein each of the connectivity mechanism and the further connectivity mechanism comprises a bluetooth connectivity module.

34. The media coding system of claim 30, wherein each of the connectivity mechanism and the further connectivity mechanism comprises an infra-red connectivity module.

5 35. A communications device capable of editing media files for providing one or more editing effects in one or more edited video frames, the editing media files comprising one or more input video frames, said communications device comprising:

a video editing application module for allowing a user to specify the editing effects; and

10 a video editing system comprising:

a compressed domain processing module, responsive to signals indicative of the input video frames, for modifying video frame data in one or more video frames based on the specified editing effects for providing modified video data indicative of said edited video frames.

15 36. The communications device of claim 35, wherein said video editing system further comprises:

a frame analyzer module, responsive to signals indicative of the video frame data, for identifying frame characteristics of at least one input video frame, so as to allow the
20 compressed domain processing module to modify the video frame data also based on the frame characteristics.

25 37. The communications device of claim 36, wherein the frame analyzer further identifies frame characteristics of at least one further video frame in the bitstream, and wherein the video editing system further comprises:

a spatial domain processing module, responsive to signals indicative of the frame characteristics of the further video frame, for modifying video frame data in the further video frame based on the frame characteristics of the further video frame and the specified editing parameters for providing further modified video data.

30 38. The communications device of claim 37, wherein the video editing system further comprises:

a module for combining at least a part of the further modified video data with at least a part of the modified video data.

39. The communications device of claim 35, wherein the video editing system further comprises:

a format composer module, responsive to signals indicative of the modified video data, for converting the modified video data into an edited media file for use in a media player.

40. The communications device of claim 35, further comprising:
a display screen for display video images based on modified video data.

41. The communications device of claim 35, comprising a mobile terminal.

42. A software product for use in a video editing system for editing one or more input video frames in a bitstream for providing one or more edited video frames, the edited video frames including at least one editing effect specified by one or more editing parameters, said software product comprising:

a code for identifying frame characteristics of at least one input video frame in the bitstream; and

a code for modifying video data in one or more input video frames in the compressed domain based on the frame characteristics of said at least one frame and the specified editing parameters so as to provide a modified video data indicative of said edited video frames.

43. The software product of claim 42, wherein the input video frames contain video data coded with variable-length code (VLC), said software product further comprising:

a code for converting the VLC coded video data into a binary form prior to modification of video data in one or more input video frames.

44. The software product of claim 42, wherein the identifying code also identifies frame characteristics of at least one further input video frame, said software product further comprising

a code for modifying video data in one or more further input video frames in a further domain different from the compressed domain based on the frame characteristics of said further input video frame and the specified editing parameters so as to provide modified further video data.

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45. The software product of claim 44, wherein the further domain is a spatial domain.

46. The software product of claim 44, wherein the further domain is a file format domain.

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47. The software product of claim 44, further comprising:
a code for combining the modified further video data with the modified video data for providing the edited video frames.

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48. The software product of claim 42 further comprising:
a code for converting the modified video data into an edited media file for use in a media player.